

PATENT APPLICATION

Docket No.: 84693US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED
CENTRAL FAX CENTER

MAR 17 2006

In the application of: Pollack et al.

Serial No.: 10/735,208

Filed: 12/15/2003

For: SYNTHESIS OF HIGHLY CONDUCTING AND TRANSPARENT THIN POLYMER
FILMS

Examiner: Cameron, Erma C

Art Group Unit: 1762

Honorable Commissioner of Patents

PO Box 1450

Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131 OF STEVE POLLACK, BRETT D. MARTIN,
AND YUNG-HOON HA

Sir:

We, the below-signed, hereby declare that:

1. We are the joint inventors of the subject matter presently recited in claim 1 of the above-referenced patent application. The other inventors named in the application did not invent the subject matter of claim 1.
2. Attached are copies of three laboratory notebook pages. The first page is from the notebook of Yung-Hoon Ha and bears his signature in the top-left corner. The page is dated 3/11/03, by which date the entries were made. This page shows that a film was made from a 45% solution of imidazole (Im), iron tosylate (Fe), and monomer (M) in methoxy ethanol.
3. The second page is from the notebook of Brett D. Martin and bears his signature in the bottom-left corner. The page is dated 3/17/03, by which date the entries were made. The graph on the lower portion of the page shows the effect of initial reactant concentrations on film properties, including 45% concentration.
4. The third page is from the notebook of Yung-Hoon Ha and bears his signature in the top-left corner. The page is dated 4/3/03, by which date the entries were made. This page shows that a films were made from 45% and 60% solutions of imidazole, iron tosylate, and ethylene dioxithiophene (EDOT) in pentanol.
5. All work described in the attached copies was performed in NAFTA or WTO member countries.

BEST AVAILABLE COPY

PATENT APPLICATION
Docket No.: 84693US1

6. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

3/17/06

Date _____

[Handwritten signature]

Steve Pollack

Date _____

Brett D. Martin

Date _____

Yung-Hoon Ha

PATENT APPLICATION
Docket No.: 84693US1

6. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing hereon.

Date16 March 06

Date

Steve PollackBrett D. Martin

Brett D. Martin

Date

Yung-Hoon Ha

BEST AVAILABLE COPY

PATENT APPLICATION
Docket No.: 84693US1

6. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date

Steve Pollack

Date

Brett D. Martin

3/6/06

Date


Yung-Hoon Na

5/11/03

30% Solution
1500 rpm
(Im:Fe:Al):(2:1)

Solvent	SR (Ohm/square)	%T	thick. nm	cond. S/cm
Methanol	200	60	170	294
Propanol	300	70	120	278
Burand	350	75	100	268
Methoxy ethanol	400	81.6	75	333
Perland	600	88	53	314

30% Butanol Solution
1500 rpm
(Im:Fe:Al):(2:1)

Fe	SR (Ohm/square)	%T	thick. nm	cond. S/cm
1.5	no film	no film		
1.75	780	68.3	40	320
2	350	74.8	100	208
2.5	480	69.4	120	174
3	500	55.8	150	128

30% Butanol Solution
1500 rpm
(Im:Fe:Al):(2:1)

Imidazole	SR (Ohm/square)	%T	thick. nm	cond. S/cm
0	4700	34.1	200	9
1	3600	47.1	200	14
1.5	850	53.4	180	68
2	350	75.1	100	288
2.5	no film	no film		

45% Solution
Methoxy Ethanol
(Im:Fe:Al):(2:1)

speed	SR (Ohm/square)	%T	thick. nm	cond. S/cm
1500 rpm	150	66.8	130	513
3000 rpm	200	75.8	100	500
4500 rpm	220	80	90	505
6000 rpm	250	82.1	77	520

30% solution
Methoxy Ethanol
(Im:Fe:Al):(2:1)

speed	SR (Ohm/square)	%T	thick. nm	cond. S/cm
1500 rpm	400	81.8	75	333
3000 rpm	430	84.4	70	332
4500 rpm	500	87.4	60	333
6000 rpm	580	88.8	52	343

15% Solution
Methoxy Ethanol
(Im:Fe:Al):(2:1)

speed	SR (Ohm/square)	%T	thick. nm	cond. S/cm
1500 rpm	1000	65.8	23	272
3000 rpm	3100	88.8	15	216
4500 rpm	5800	100	8	182
6000 rpm	9500	100	8	175

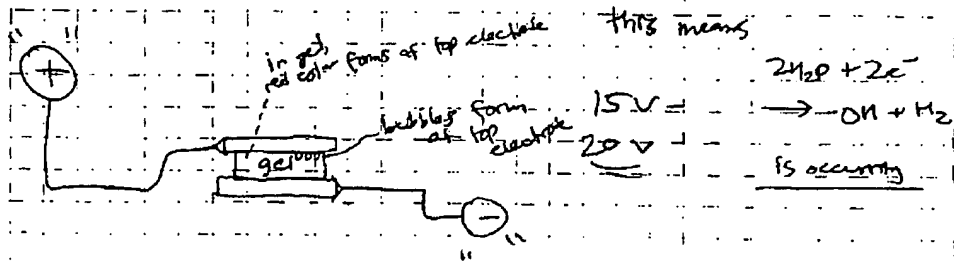
Pink and underside by
BURBANK 1/17/03

PROJECT

Notebook No. _____

97

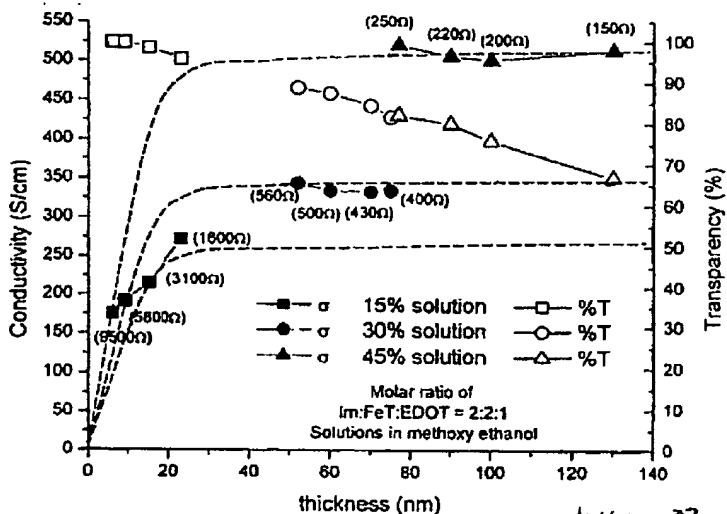
Continued From Page _____



the "+"
electrode is the
e- rich
one

May 11-12 PACE San Diego

Effect of
Initial reactant
Concentrations
on final film
properties -
big conducting
increase, very
slight decrease
in ρ_{OT}



14 Mar 03

Read and Understood By

B. B. G. Mark

17 Mar 03

[Signature]

4-30-03

Signed

Date

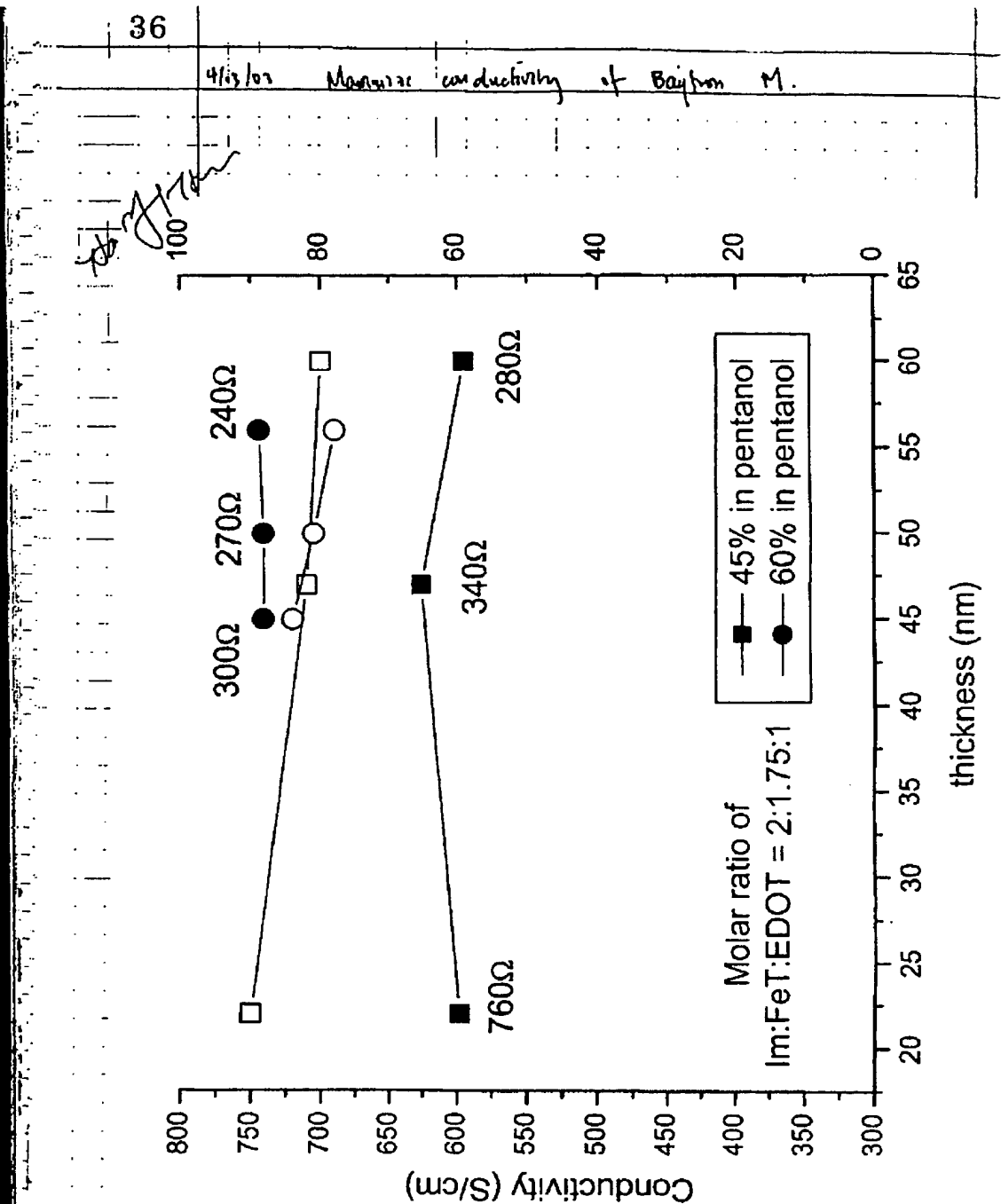
Signed

Date

Results
showing
a strategy
possible
for increasing
film ρ_{OT}
while
maintaining
constant
film σ
13 Mar 03

sd on Page

4-30-03
Date



Read and understood by
B. J. H. 1 May 03